the disclosed configurations, but could be provided in virtually any shapes, and/or combined in virtually all configurations.

[0541] The appended claims are not to be interpreted as including means-plus-function limitations, unless such a limitation is explicitly recited in a given claim using the phrase(s) "means for" and/or "step for." Subgeneric embodiments of the invention are delineated by the appended independent claims and their equivalents. Specific embodiments of the invention are differentiated by the appended dependent claims and their equivalents.

What is claimed is:

1. An apparatus, comprising a broadcast optical interconnect including:

a plurality of nodes positioned to define a node array, each of the plurality of nodes having at least one optical signal emitter and a plurality of optical signal receivers positioned to define a receiver array that substantially corresponds to the node array; and

a plurality of optics optically coupled to the array of nodes, the plurality of optics positioned to define an optics array that substantially corresponds to the node array and the receiver array, each of the plurality of optics including at least one optical distributing element and an optical collecting element, wherein an optical signal from the optical signal emitter is fanned-out by the at least one optical distributing element of one of the optics and broadcast to one of the plurality of receivers of all of the plurality of nodes by the optical collecting element of all of the plurality of optics.

2. The apparatus of claim 1, wherein the at least one optical distributing element includes a wedge.

3. The apparatus of claim 1, wherein the at least one optical distributing element includes a diverging lens.

4. The apparatus of claim 1, wherein the at least one optical distributing element includes a faceted lens having a plurality of facets, one facet for each optical collecting element.

5. The apparatus of claim 4, wherein the plurality of facets include a plurality of anamorphic facets.

6. The apparatus of claim 1, wherein each optical collecting element of all of the plurality of optics includes a compound collecting lens.

7. The apparatus of claim 6, wherein the compound collecting lens includes two Fresnel lenses.

8. The apparatus of claim 1, wherein each optical collecting element of all of the plurality of optics includes a split collecting lens.

9. The apparatus of claim 6, wherein the split collecting lens includes two Fresnel lenses.

10. A distributed computer system comprising the apparatus of claim 1.

11. A method, comprising operating a broadcast optical interconnect including:

fanning-out an optical signal from an optical signal emitter, of one of a plurality of nodes, with an optical distributing element of one of a plurality of optics; and

substantially simultaneously broadcasting the optical signal to one of a plurality of receivers of all of the plurality of nodes with an optical collecting element of all of the plurality of optics,

wherein the plurality of optics are positioned to define an optics array, the plurality of receivers are positioned to define a receiver array that corresponds to the optics array and the plurality of nodes are positioned to define a node array that substantially corresponds to the receiver array and the optics array.

12. The method of claim 11, wherein fanning-out includes refracting the optical signal through a wedge.

13. The method of claim 11, wherein fanning-out includes refracting the optical signal through a diverging lens.

14. The method of claim 11, wherein fanning-out includes refracting the optical signal through a faceted lens having a plurality of facets, one facet for each node.

15. The method of claim 11, wherein refracting the optical signal includes conveying the optical signal through a plurality of anamorphic facets.

16. The method of claim 11, wherein substantially simultaneous broadcasting including magnifying.

17. The method of claim 16, wherein magnifying includes refracting the optical signal through a compound collecting lens.

18. The method of claim 17, wherein refracting the optical signal including conveying the optical signal through two Fresnel lenses.

19. The method of claim 16, wherein magnifying includes refracting the optical signal through a split collecting lens.

20. A method of operating a distributed computer system comprising the method of claim 11.

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